

# Steroidal Sapogenins LV\*

## Survey of Plants for Steroidal Sapogenins and Other Constituents

By MONROE E. WALL, C. S. FENSKE, J. W. GARVIN, J. J. WILLAMAN,  
QUENTIN JONES, BERNICE G. SCHUBERT, and H. S. GENTRY

This report covers the fifth 1,000 accessions in a survey of plants for steroidal sapogenins and is thus a continuation of the previous four reports (1-7). Data are given for 990 accessions (all but 107 from the United States), representing 147 families, 547 genera, and 921 species. Few steroidal sapogenins were found, largely because of the absence of *Agave*, *Yucca*, and *Dioscorea*; but alkaloids were qualitatively identified in 86 species, 15 of which are new to the record.

**T**HIS IS A CONTINUATION of the previous reports (1-7) on the first four 1,000 accessions. It covers the fifth 1,000 plant samples in our survey of the plant world for steroidal sapogenins, and includes qualitative results for flavonoids, alkaloids, tannins, and unsaturated sterols.

### PROCUREMENT

By 1954 the search for plant sources of steroidal sapogenins by the three cooperating federal agencies had been in operation for approximately four years. Leads developed during this period indicated that the three genera, *Dioscorea*, *Agave*, and *Yucca*, were the most promising sources of useful steroidal sapogenins. Procurement activities in the latter part of this period reflected the attention focused on these genera and their near relatives. Representatives of many other families were examined but the major emphasis became centered on the *Dioscoreaceae*, *Amaryllidaceae*, and *Liliaceae*.

The present report chronicles a different phase of the program. Species of *Dioscorea* had been settled upon as having the most potential for becoming crop sources of cortical and hormonal analogs. Intensive crop development studies by the Crops Research Division, guided in the selection of superior strains by chemical evaluations supplied by the Eastern Utilization Research and Development Division, had naturally become an increasingly important phase of the program. But because *Dioscorea*, *Agave*, and *Yucca* had by this time been rather thoroughly screened for steroidal sapogenins, procurement activities were directed once more toward a broad survey of the higher plants with the hope of finding a steroid-rich species more amenable to crop conditions of the United States than are species of *Dioscorea*.

The logical place to look for species which are apt to fit crop environments of this country is in our native flora. Of the 990 accessions here reported on, all but 107 were collected in the United States. Collecting was concentrated in the Atlantic

States as evidenced by over 800 accessions here listed from that area.

Another reflection of the broadness of the screening program during this period is the large number of families, genera, and species represented. Included are 921 species in 547 genera distributed through 147 families. This same philosophy of obtaining broad coverage of our native flora continues with other areas of the country receiving increasingly more emphasis in our procurement activities.

### REVISED ALKALOID PROCEDURE

In previous reports we were conducting the Mayer alkaloid tests on samples in which each ml. of final test solution was equivalent to 0.2 Gm. of original dry plant sample. Because we were obtaining a much larger proportion of negative alkaloid tests than expected from statistical averages, we have greatly increased the concentrations used so that 1 ml. of final test solution is equivalent to 4.0 Gm. of dry plant material. Thus the revised procedure is much more sensitive for the purposes of alkaloid screening.

### RESULTS

A compilation of all data is given in Table I, page 696, *et seq.* Since in the past steroidal sapogenins were found mostly in *Agave*, *Yucca*, and *Dioscorea*, and since in the present collection these genera were represented by only six collections, the table, as previously used, has been modified by the omission of the columns concerning sapogenins. Their presence is indicated by footnote b and the details are reported in the text.

Saponins, as indicated by hemolysis, were found in only 10% of the species. This is a surprisingly low incidence, since in the previous 4,000 accessions the occurrence was 35% of the species exclusive of those in *Agave*, *Dioscorea*, and *Yucca*. The following list gives the information on the steroidal sapogenins found; the accession number, the plant, the plant part, the amount, and kind of sapogenins: 4127, 4705 *Dioscorea deltoidea* (*Dioscoreaceae*); r, t; 0.5 and 1.2%; diosgenin. 4138 *Dioscorea quaternata*; r; 0.5%; diosgenin. 4653 *Clintonia umbellulata* (*Liliaceae*); l, s, r; 0.1%; not determined. 4678 *Trillium flexipes* (*Liliaceae*); l, s, fr; 0.3%; not identified. 4713B *Cestrum* sp. (*Solanaceae*); ff; 0.5%; tigogenin. 4743 *Tribulus terrestris* (*Zygophyllaceae*); l, s, fl; 0.3%; tigogenin.

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TABLE I.—CONSTITUENTS FOUND IN THE PLANT COLLECTIONS

Accession No.	Species	Source	Date Collected	Plant Part	Code for Plant Parts		Hemolysis	Flavonoids	Alkaloids	Tannins	Isterols
					b—bark	r—root					
4028	<i>Aphelandra nitens</i>	Tingo Maria, Peru	4/54	1, s, r	+	0	0	0	0	++	0
4253	<i>Dianthera (Justicia) Americana</i>	Johnston Co., N. C.	6/54	1, s	—	0	0	0	0	++	0
4252	<i>Acer Flordanum</i>	Wake Co., N. C.	6/54	1, s	—	0	0	0	++	0	..
4510	<i>Acer Pensylvanicum</i>	Haywood Co., N. C.	7/54	1, s, fr	—	+	0	0	++	0	..
4588	<i>Molinia verticillata</i>	Brunswick, N. C.	7/54	1, s, r	+	0	0	0	0	++	0
4680	<i>Molinia verticillata</i>	Dorchester Co., Md.	7/54	1, s, fl, r	—	0	0	0	0	++	0
4897	<i>Sesuvium portulacastrum</i>	Franklin Co., Fla.	8/54	1, s	—	0	0	0	0	++	0
4689	<i>Alisma subcordatum</i>	Dorchester Co., Md.	7/54	1, s, fl, r	—	0	0	0	0	++	0
4439	<i>Lophotocarpus calycinum</i>	Brunswick Co., N. C.	7/54	1, s, fl, r	—	0	0	0	0	++	0
4847	<i>Sagittaria engelmanniana</i>	Wayne Co., Pa.	8/54	1, s, fl, r	—	0	0	0	0	++	0
4744	<i>Sagittaria Jalcata</i>	Carteret Co., N. C.	7/54	1, s	—	0	0	0	0	++	0
4668	<i>Sagittaria latifolia</i>	Baltimore Co., Md.	7/54	1, s, r	—	0	0	0	0	++	0
4747	<i>Acnida caninina</i>	Carteret Co., N. C.	7/54	1, s	+	0	0	0	0	++	0
4688	<i>Acnida caninina</i>	Dorchester Co., Md.	7/54	1, s, r	—	0	0	0	0	++	0
4197	<i>Alternanthera philoxeroides</i>	New Hanover Co., N. C.	6/54	1, s, fl, r	+	0	0	0	0	++	0
4682	<i>Amaranthus gracilans</i>	Dorchester Co., Md.	7/54	1, s, fl, r	—	0	0	0	0	++	0
4478	<i>Amaranthus hybridus</i>	Nansemond Co., Va.	7/54	1, s, r	+	0	0	0	0	++	0
4732	<i>Amaranthus spinosus</i>	New Hanover Co., N. C.	7/54	1, s, fl, r	+	0	0	0	0	++	0
4892	<i>Froebea Floridae</i>	Leon Co., Fla.	8/54	1, s, fl, r	—	0	0	0	0	++	0
4153	<i>Pistacia lentiscus</i>	Chico, Calif.	5/54	1, s	—	+	0	0	0	++	0
4051	<i>Rhus aromatica</i>	Hancock Co., Ga.	4/54	1	—	0	0	0	0	++	0
4073	<i>Rhus copallina</i>	McIntosh Co., Ga.	4/54	1	—	0	0	0	0	++	0
4082	<i>Rhus glabra</i>	Clarke Co., Ga.	4/54	1	—	0	0	0	0	++	0
4625	<i>Rhus glabra</i>	Buncombe Co., N. C.	7/54	s, fr	—	0	0	0	0	++	0
4787	<i>Rhus ovata</i>	Aguanga, Calif.	7/54	1	—	0	0	0	0	++	0
4659	<i>Rhus typhina</i>	Garrett Co., Md.	7/54	1, s, fl	—	0	0	0	0	++	0
4286	<i>Rhus vernix</i>	Anne Arundel Co., Md.	6/54	1	—	0	0	0	0	++	0

W—whole plant above ground

Code for Source Names  
 C, G, F.—U. S. Plant Introduction Garden, Coconut Grove, Fla. (cult.)  
 Chico, Calif.—U. S. Plant Introduction Garden, Chico, Calif. (cult.)

b—bark  
 bu—bulb  
 fl—inflorescence  
 fr—fruit  
 l—leaf

r—root  
 s—stem  
 t—tuber  
 tw—twig



Accession No.	Species	Collection	Source	Date Collected	Plant Part	Hemolysis				
						Flavonoids	Alkaloids	Tannins	Sterols	
4008	<i>Begonia foliosa</i> var. <i>Australis</i>	Cayumba, Tingo Maria, Peru	REGONIACEAE	4/54	l, s, r	-	0	0	0	0
4530	<i>Akebia quinata</i>	Buncombe Co., N. C.	BERBERIDACEAE	7/54	l, s	-	0	0	0	0
4546	<i>Berberis thunbergii</i>	Henderson Co., N. C.		7/54	l, s	-	0	0	0	0
4529	<i>Caulophyllum thalictroides</i>	Buncombe Co., N. C.		7/54	l, s, fr, r	-	0	0	0	0
4551	<i>Diphyllea cymosa</i>	Macon Co., N. C.		7/54	l, s, fr	+*	++	0	0	0
4507	<i>Betula lenta</i>		BETULACEAE	7/54	-	++	0	0	0	0
4083	<i>Betula nigra</i>	Haywood Co., N. C.		7/54	l, s	-	0	0	+	0
4845	<i>Betula populifolia</i>	Clarke Co., Ga.		4/54	l	+*	0	0	0	0
4325	<i>Carpinus Caroliniana</i>	Wayne Co., Pa.		8/54	l, s	-	0	0	0	0
4393	<i>Corylus Americana</i>	Chatham Co., N. C.		6/54	l, s	-	0	0	0	0
4526	<i>Ostrya Virginiana</i>	Baltimore Co., Md.		7/54	l, s	-	0	0	0	0
4666	<i>Ostrya Virginiana</i>	Buncombe Co., N. C.		7/54	l, s	-	0	0	0	0
		Allegany Co., Md.		7/54	l, s	-	0	0	0	0
4719	<i>Arrabidaea rotundata</i>	C. G. F.	BIGNONIACEAE	7/54	l, s	-	0	0	0	0
4611	<i>Bignonia capreolata</i>	Floyd Co., Ky.		7/54	l, s	+*	0	0	0	0
4365	<i>Catalpa speciosa</i>	Jefferson Co., Ga.		7/54	l, s	-	0	0	0	0
4089	<i>Campsipus radicans</i>	Clarke Co., Ga.		6/54	l, s	-	0	0	0	0
4923	<i>Campsipus radicans</i>	Charles Co., Md.		4/54	l, s	-	0	0	0	0
4009	<i>Bixa orellana</i>		BIXACEAE	8/54	fr	-	0	0	0	0
		Cayumba, Tingo Maria, Peru		4/54	l, s	-	0	0	0	0
4025	<i>Cordia sp.</i>		BORAGINACEAE	4/54	l, s	-	0	0	0	0
4806	<i>Cynoglossum officinale</i>	Tingo Maria, Peru		8/54	l, s	-	0	0	0	0
4102	<i>Cynoglossum Virginianum</i>	Yates Co., N. Y.		8/54	l, s, fl, r	-	0	0	0	0
4204	<i>Echium vulgare</i>	Wake Co., N. C.		4/54	l, r	-	0	0	0	0
4501	<i>Heliotropium anchusaefolium</i>	Wake Co., N. C.		6/54	l, s, fl	-	0	0	0	0
4638	<i>Heliotropium tenellum</i>	Marlboro Co., S. C.		7/54	l, s, fl	-	0	0	0	0
4756	<i>Tillandsia usneoides</i>	Bullitt Co., Ky.		7/54	l	+*	0	0	0	0
		Carteret Co., N. C.		7/54	fl	-	0	0	0	0
4615	<i>Pachysandra procumbens</i>	Laurel Co., Ky.	BUXACEAE	7/54	l, fl	-	+	0	0	0
4295	<i>Opuntia humifusa</i>	Anne Arundel Co., Md.	CACTACEAE	7/54	l, s, r	-	0	0	0	0
4652	<i>Campanula Americana</i>	Gilmer Co., W. Va.	CAMPANULACEAE	6/54	w	-	0	0	0	0
4808	<i>Campanula rapunculoides</i>	Yates Co., N. Y.		7/54	l, s, fl, r	-	0	0	0	0
4292	<i>Specularia perforata</i>	Charles Co., Md.		6/54	l, s, fl, r	-	0	0	0	0
4056	<i>Specularia perforata</i>	McIntosh Co., Ga.		4/54	l	-	0	0	0	0



Accession No.	Species	Collection Source	Plant Part	Alkaloids	Tannins
		CLETHRACEAE	Collected Date	Flavonoids	Hemolytic test
4504	<i>Clethra acuminata</i>	Buncombe Co., N. C.	7/54 6/54 8/54	1, s, fl 1, s, fl 1, s	++ ++ ++
4193	<i>Clethra alnifolia</i>	Sampson Co., N. C.		0	++
4392	<i>Clethra tomentosa</i>	Liberty Co., Fla.		0	++
4759	<i>Commelinina diffusa</i>	Carteret Co., N. C.	7/54	1, s, fl	++
4950	<i>Commelinina Virginica</i>	Leon Co., Fla.	8/54	1, s, r	++
4057	<i>Tradescantia (canaliculata) ohioensis</i>	McIntosh Co., Ga.	4/54	1	++
4593	<i>Acanthospermum australe</i>	Brunswick Co., N. C.	7/54	1, s	++
4043	<i>Achillea millefolium</i>	Wake Co., N. C.	4/54	1, s	++
4543	<i>Actinomeris alternijolia</i>	Henderson Co., N. C.	7/54	1, s	++
4317	<i>Ambrosia artemisiifolia</i> var. <i>paniculata</i>	Chatham Co., N. C.	6/54	1, s	++
4277	<i>Ambrosia trifida</i>	Baltimore Co., Md.	6/54	1, s, fl	++
4281	<i>Ambrosia trifida</i>	Durham Co., N. C.	6/54	1, s, fl	++
4839	<i>Anaphalis margaritacea</i>	Schenectady, Pa.	8/54	1, s, fl, r	++
4130	<i>Anisemaria plantaginifolia</i>	Washington Co., Md.	5/54	w	++
4301	<i>Anisemaria urvensis</i>	Anne Arundel Co., Md.	6/54	1, s, fl, r	++
4279	<i>Arctium lappa</i>	Baltimore Co., Md.	6/54	1, s, fl	++
4539	<i>Arctium minus</i>	Henderson Co., N. C.	7/54	1, s, fl	++
4629	<i>Artemisia abrotanum</i>	Union Co., Ky.	7/54	1, s, fl	++
4527	<i>Artemisia ladoviciana</i>	Buncombe Co., N. C.	7/54	1, s, r	++
4793	<i>Artemisia tridentata</i> var. <i>angustifolia</i>	Dripping Spring, Calif.	7/54	1, s, r	++
4540	<i>Artemisia vulgaris</i>	Henderson Co., N. C.	7/54	1, s, r	++
4002	<i>Asperula sp.</i>	Tingo Maria, Peru	4/54	1, s, r	++
4307	<i>Aster lateriflorus</i>	Chatham Co., N. C.	6/54	1, s, r	++
4480	<i>Aster pilosus</i> var. <i>demotus</i>	Elizabeth City Co., Va.	7/54	1, s, fl, r	++
4535	<i>Aster puniceus</i>	Buncombe Co., N. C.	7/54	1, s, fl	++
4364	<i>Aster reticulatus</i>	Irwin Co., Ga.	6/54	1, s, fl, r	++
4974	<i>Baldina umbriflora</i>	Wakulla Co., Fla.	8/54	1, s, r	++
4962	<i>Berlandiera pumila</i>	Leon Co., Fla.	8/54	1, s, r	++
4486	<i>Bidens bipinnata</i>	Nansemond Co., Va.	7/54	1, s, r	++
4013	<i>Bidens monticola</i>	Tingo Maria, Peru	4/54	1, s, r	++
4036	<i>Bidens pilosa</i> var. <i>radiata</i>	Tingo Maria, Peru	4/54	1, s, r	++
4873	<i>Bidens pilosa</i>	Leon Co., Fla.	8/54	1, s, fl, r	++
4980	<i>Bigelowia nudata</i>	Liberty Co., Fla.	8/54	1, s, r	++
4340	<i>Boltonia diffusa</i>	Thomas Co., Ga.	6/54	1, s, fl	++
4263	<i>Borrichia frutescens</i>	Brunswick Co., N. C.	6/54	1, s, fl	++
4244	<i>Cacalia airiifolia</i>	Johnston Co., N. C.	6/54	1, s, fl, r	++
4981	<i>Cacalia elottii</i>	Liberty Co., Fla.	8/54	1, s, fl, r	++
4558	<i>Cacalia suaveolens</i>	Transylvania Co., N. C.	7/54	1, s, fl	++
4523	<i>Carduus acanthoides</i>	Buncombe Co., N. C.	7/54	1, s, fl, r	++
4422	<i>Carphophorus tormentosus</i>	Brunswick Co., N. C.	7/54	1, s, fl, r	++
4520	<i>Centauraea maculosa</i>	Haywood Co., N. C.	7/54	1, s, fl, r	++
4597	<i>Centauraea maculosa</i>	Alleghany Co., Md.			0

4643	<i>Centaurea solstitialis</i>	Pendleton Co., Ky.	7/54
4827	<i>Centaurea noctinensis</i>	Yates Co., N. Y.	8/54
4419	<i>Chrysopsis gossypina</i>	Brunswick Co., N. C.	7/54
4420	<i>Chrysopsis grammifolia</i>	Brunswick Co., N. C.	7/54
5000	<i>Chrysopsis microcephala</i>	Liberty Co., Fla.	7/54
4374	<i>Chrysopsis pinifolia</i>	Moore Co., N. C.	8/54
4570	<i>Chrysopsis trichophylla</i>	Brunswick Co., N. C.	6/54
4538	<i>Cirsium altissimum</i>	Henderson Co., N. C.	7/54
4809	<i>Cirsium arvense</i>	Yates Co., N. Y.	1, s, f, r
4376	<i>Cirsium repandum</i>	Scotland Co., N. C.	7/54
4483	<i>Cirsium vulgare</i>	Elizabeth City Co., Va.	1, s, f, r
4039	<i>Cladium pilosum</i>	Tingo Maria, Peru	7/54
4982	<i>Coreopsis helianthoides</i>	Liberty Co., Fla.	4/54
4076	<i>Coreopsis lanceolata</i>	Bryan Co., Ga.	8/54
4323	<i>Coreopsis major</i> var. <i>stellata</i>	Orange Co., N. C.	6/54
4648	<i>Coreopsis tripteris</i>	Rowan Co., Ky.	7/54
4250	<i>Coreopsis verticillata</i>	Wake Co., N. C.	6/54
4636	<i>Echinacea pallida</i>	Bullitt Co., Ky.	7/54
4647	<i>Echinacea purpurea</i>	Rowan Co., Ky.	4/54
4702	<i>Ecclipta alba</i>	Somerset Co., Md.	7/54
4425	<i>Elephantopus carolinianus</i>	Brunswick Co., N. C.	1, s, f, r
4876	<i>Elephantopus elatus</i>	Leon Co., Fla.	8/54
4468	<i>Erechtites hieracifolia</i> Erl. - <i>Convolvulus</i>	Brunswick Co., N. C.	1, s, f, r
4249	<i>Erigeron pusillus</i>	Johnston Co., N. C.	6/54
4766	<i>Erigeron quercifolius</i>	Carteret Co., N. C.	7/54
4059	<i>Eupatorium album</i>	McIntosh Co., Ga.	4/54
4960	<i>Eupatorium capillifolium</i>	Leon Co., Fla.	8/54
4266	<i>Eupatorium compositifolium</i>	Brunswick Co., N. C.	6/54
4361	<i>Eupatorium coriaceum</i>	Emmanuel Co., Ga.	6/54
4332	<i>Eupatorium canescens</i>	Wake Co., N. C.	6/54
4770	<i>Eupatorium fistulosum</i>	Brunswick Co., N. C.	7/54
4214	<i>Eupatorium hyssopifolium</i> (typical)	Wake Co., N. C.	6/54
4697	<i>Eupatorium hyssopifolium</i> var. <i>lacinatum</i>	Somerset Co., Md.	7/54
4698	<i>Eupatorium maculatum</i>	Somerset Co., Md.	1, s, r
4554	<i>Eupatorium mikanoides</i>	Macon Co., N. C.	7/54
4968	<i>Eupatorium mohrii</i>	Wakulla Co., Fla.	8/54
4437	<i>Eupatorium pilosum</i>	Brunswick Co., N. C.	7/54
4752	<i>Eupatorium resinosum</i>	Carteret Co., N. C.	7/54
4937	<i>Eupatorium rotundifolium</i>	Sussex Co., Del.	8/54
4258	<i>Eupatorium rugosum</i> var. <i>roanense</i>	Johnston Co., N. C.	6/54
4503	<i>Eupatorium semiterratum</i>	Haywood Co., N. C.	7/54
4877	<i>Eupatorium serotinum</i>	Leon Co., Fla.	8/54
4246	<i>Franseria acanthocarpa</i>	Wake Co., N. C.	6/54
4794	<i>Giliastrum laevolata</i>	Dripping Spring, Calif.	8/54
4966	<i>Galinago parviflora</i>	Leon Co., Fla.	1, s, f, r
4282	<i>Gnaphalium obtusifolium</i>	Baltimore Co., Md.	6/54
4450	<i>Gnaphalium sp.</i>	Brunswick Co., N. C.	7/54
4575	<i>Guerinia California</i>	Brunswick Co., N. C.	7/54
4803		Murrieta, Calif.	8/54

Accession No.	Species	Source	Collection Date	Hemolysis test	Sterols		
					Plant Part	Alkaloids	Tannins
4775	<i>Haplospappus divaricatus</i>	Brunswick Co., N. C.	7/54	+	1, s, fl, r	0	0
4495	<i>Helianthus godfreyi</i>	Craven Co., N. C.	7/54	-	1, s, fl, r	0	0
4329	<i>Helemium tenuifolium</i>	Wake Co., N. C.	6/54	0	1, s, fl, r	0	0
4331	<i>Helianthus microcephalus</i>	Orange Co., N. C.	6/54	0	1, s, fl, r	0	0
4632	<i>Helianthus mollis</i>	Graysen Co., Ky.	6/54	0	1, s, fl, r	0	0
4320	<i>Helianthus strumosus</i>	Chatthan Co., N. C.	6/54	0	1, s, fl, r	0	0
4471	<i>Helianthus tomentosus</i>	Brunswick Co., N. C.	7/54	0	1, s, fl, r	0	0
4545	<i>Helianthus tuberosus</i>	Henderson Co., N. C.	7/54	0	1, s, fl, r	0	0
4819	<i>Helianthus sp.</i>	Yates Co., N. Y.	8/54	0	1, s, fl, r	0	0
4518	<i>Heliospis helianthoides</i>	Haywood Co., N. C.	7/54	0	1, s, fl, r	0	0
4565	<i>Heterotheca latifolia</i>	Spartanburg Co., S. C.	7/54	0	1, s, fl, r	0	0
4131	<i>Hieracium venosum</i>	Washington Co., Md.	5/54	0	1, s, fl, r	0	0
4382	<i>Hypochaeris radicata</i>	Hanover Co., Va.	7/54	0	1, s, fl, r	0	0
4665	<i>Inula helenium</i>	Alleghany Co., Md.	7/54	0	1, s, fl, r	0	0
4971	<i>Iva axillaris</i>	Wakulla Co., Fla.	8/54	0	1, s, fl, r	0	0
4472	<i>Iva imbricata</i>	Brunswick Co., N. C.	7/54	0	1, s, fl, r	0	0
4234	<i>Lactuca Canadensis</i>	Durham Co., N. C.	6/54	0	1, s, fl, r	0	0
4276	<i>Luzinaea sururu</i>	Bardimore Co., Md.	5/54	0	1, s, fl, r	0	0
4027	<i>Liatris palliata</i>	Tingo Maria, Peru	4/54	0	1, s, fl, r	0	0
4891	<i>Liatris Chapmanii</i>	Leon Co., Fla.	8/54	0	1, s, fl, r	0	0
4421	<i>Liatris graminifolia</i>	Brunswick Co., N. C.	7/54	0	1, s, fl, r	0	0
4890	<i>Liatris laevigata</i>	Leon Co., Fla.	8/54	0	1, s, fl, r	0	0
4737	<i>Liatris secunda</i>	New Hanover Co., N. C.	7/54	0	1, s, fl, r	0	0
4627	<i>Liatris squarrrosa</i>	Hopkins Co., Ky.	7/54	0	1, s, fl, r	0	0
4650	<i>Liatris spicata</i>	Lawrence Co., Ohio	7/54	0	1, s, fl, r	0	0
4967	<i>Melanthera hastata</i>	Wakulla Co., Fla.	8/54	0	1, s, fl, r	0	0
4590	<i>Mirmania scandens</i>	Brunswick Co., N. C.	7/54	0	1, s, fl, r	0	0
4875	<i>Parthenium hysterophorus</i>	Leon Co., Fla.	8/54	0	1, s, fl, r	0	0
4170	<i>Parthenium integrifolium</i>	Wake Co., N. C.	6/54	0	1, s, fl, r	0	0
4948	<i>Pluchea camphorata</i>	Leon Co., Fla.	8/54	0	1, s, fl, r	0	0
4936	<i>Pluchea foetida</i>	Sussex Co., Del.	8/54	0	1, s, fl, r	0	0
4949	<i>Pluchea foetida</i>	Leon Co., Fla.	8/54	0	1, s, fl, r	0	0
4970	<i>Pluchea longijolia</i>	Wakulla Co., Fla.	8/54	0	1, s, fl, r	0	0
4757	<i>Pluchea purpurascens</i>	Carteret Co., N. C.	7/54	0	1, s, fl, r	0	0
4344	<i>Pluchea rosea</i>	Aguanga, Calif.	7/54	0	1, s, fl, r	0	0
4790	<i>Pluchea segeta</i>	Wake Co., N. C.	6/54	0	1, s, fl, r	0	0
4218	<i>Polymnia medialis</i>	Brunswick Co., N. C.	6/54	0	1, s, fl, r	0	0
4178	<i>Pterocaulon undulatum</i>	Pulaski Co., Ky.	7/54	0	1, s, fl, r	0	0
4616	<i>Ratibida pinnata</i>	Haywood Co., N. C.	7/54	0	1, s, fl, r	0	0
4516	<i>Rudbeckia laciniata</i>	Brunswick Co., N. C.	6/54	0	1, s, fl, r	0	0
4189	<i>Rudbeckia serotina</i>	Liberty Co., Fla.	8/54	0	1, s, fl, r	0	0
4991	<i>Senecio aureus</i>	Liberty Co., Ga.	4/54	0	1, s, fl, r	0	0
4074	<i>Senecio Tomentosus</i>	Wake Co., N. C.	6/54	0	1, s, fl, r	0	0
4215	<i>Sericocarpus asteroides</i>	Brunswick Co., N. C.	7/54	0	1, s, fl, r	0	0
4418	<i>Sericocarpus tortifolius</i>	Orange Co., N. C.	6/54	0	1, s, fl, r	0	0
4321	<i>Sulphium asteriscus</i>			0	+	+	0

4257	<i>Silphium compositum</i>	Wake Co., N. C.	0
4637	<i>Silphium terebinthinaceum</i>	Bullitt Co., Ky.	0
4291	<i>Silphium trifoliatum</i>	Quantico, Va.	0
4322	<i>Solidago altissima</i>	Chatham Co., N. C.	0
4764	<i>Solidago boottii</i> var. <i>Caroliniana</i>	Carteret Co., N. C.	0
4464	<i>Solidago fistulosa</i>	Brunswick Co., N. C.	0
4553	<i>Solidago gigantea</i>	Macon Co., N. C.	0
4185	<i>Solidago graminifolia</i>	Brunswick Co., N. C.	0
4417	<i>Solidago minor</i>	Brunswick Co., N. C.	0
4577	<i>Solidago odora</i>	Brunswick Co., N. C.	0
4261	<i>Solidago pinetorum</i>	Brunswick Co., N. C.	0
4646	<i>Solidago rigida</i>	Johnston Co., N. C.	0
4484	<i>Solidago sempervirens</i>	Rowan Co., Ky.	+
4969	<i>Solidago sempervirens</i> var. <i>Mexicana</i>	Elizabeth City Co., Va.	+
4946	<i>Solidago stricta</i>	Wakulla Co., Fla.	+
4825	<i>Solidago tortifolia</i>	Leon Co., Fla.	+
4029	<i>Sonchus oleraceus</i>	Yates Co., N. Y.	+
4816	<i>Spilanthes Americana</i>	Tingo Maria, Peru	+
4796	<i>Tanacetum vulgare</i>	Yates Co., N. Y.	+
4692	<i>Tetradymina comosa</i>	Dripping Springs, Calif.	+
4496	<i>Tragopogon pratensis</i>	Accomac, Va.	+
4436	<i>Trifolia odoratissima</i>	Pender Co., N. C.	+
4345	<i>Trifolia paniculata</i>	Brunswick Co., N. C.	+
4094	<i>Verbena aristata</i>	Leon Co., Fla.	+
4375	<i>Verbena occidentalis</i>	Clark Co., Ga.	+
4492	<i>Vernonia angustifolia</i>	Scotland Co., N. C.	+
		Bertie Co., N. C.	+
4885	<i>Breweria hamistrata</i>	Leon Co., Fla.	0
4776	<i>Calonyction tuba</i>	Brunswick Co., N. C.	0
4863	<i>Convolvulus arvensis</i>	Baltimore Co., Md.	0
4981	<i>Convolvulus sepium</i>	Elizabeth City Co., Va.	0
4734	<i>Ipomoea hederacea</i>	New Hanover Co., N. C.	0
4896	<i>Ipomoea pes-caprae</i>	Franklin Co., Fla.	0
4884	<i>Ipomoea quamoclit</i>	Leon Co., Fla.	0
4183	<i>Ipomoea sagittata</i>	Brunswick Co., N. C.	0
4871	<i>Jacquemontia tamnifolia</i>	Leon Co., Fla.	0
4272	<i>Cornus amomum</i>	Brunswick Co., N. C.	0
4200	<i>Cornus Florida</i>	Wake Co., N. C.	0
4817	<i>Cornus foemina</i>	Yates Co., N. Y.	0
4818	<i>Cornus stolonifera</i>	Yates Co., N. Y.	0
4854	<i>Penstemon sedoides</i>	Frederick Co., Md.	0
4612	<i>Sedum ternatum</i>	Magoffin Co., Ky.	0
4103	<i>Barbara verna</i>	Wake Co., N. C.	0
4804	<i>Berteroa incana</i>	Yates Co., N. Y.	0
4060	<i>Lepidium Virginicum</i>	McIntosh Co., Ga.	0

Accession No.	Species	Source	Date Collected	Plant Part		Hemolysis test	Flavonoids	Alkaloids	Tannins	Sterols
				CRUCIFERAE	COLLECTED					
4104	<i>Cardamine hirsuta</i>	Wake Co., N. C.	4/54	w	-	-	0	0	0	0
4679	<i>Rorippa islandica</i> ( <i>Radicula palmatis</i> )	Mingo Co., W. Va.	7/54	1, s, fl	-	0	0	0	0	0
4826	<i>Sisymbrium officinale</i>	Yates Co., N. Y.	8/54	1, s, r	-	0	0	0	..	..
4040A	<i>Weinmannia sp.</i>	Tingo Maria, Peru	4/54	1, s	-	0	0	0	..	..
4040B	<i>Weinmannia sp.</i>	Tingo Maria, Peru	4/54	b	-	0	0	++	++	++
4907	<i>Bulbostylis capillaris</i>	Harford Co., Md.	8/54	1, fl, r	-	0	0	0	0	0
4581	<i>Bulbostylis stenophyllus</i>	Brunswick Co., N. C.	7/54	1, r	-	0	0	0	0	0
4684	<i>Carex crinita</i>	Dorchester Co., Md.	7/54	1, r	-	0	0	0	0	0
4463	<i>Carex glaucescens</i>	Brunswick Co., N. C.	7/54	1, fl, r	-	0	0	0	0	0
4235	<i>Carex lucida</i>	Durham Co., N. C.	7/54	1, fl, r	-	0	0	0	0	0
4686	<i>Carex lispulina</i>	Dorchester Co., Md.	6/54	s, fl, r	-	0	0	0	0	0
4592	<i>Cladium jamaicense</i>	Brunswick Co., N. C.	7/54	1, fl, r	-	0	0	0	0	0
4568	<i>Cyperus leucostylis</i>	Brunswick Co., N. C.	7/54	1, s, fl	-	0	0	0	0	0
4955	<i>Cyperus strigosus</i>	Brunswick Co., N. C.	7/54	1, s, fl, r	-	0	0	0	0	0
4846	<i>Distichlis urmidimacrum</i>	Leon Co., Fla.	8/54	1, fl	-	0	0	0	0	0
4428	<i>Eleocharis tuberculosa</i>	Wayne Co., Pa.	8/54	1, fl	-	0	0	0	0	0
4589	<i>Fimbristylis castanea</i>	Brunswick Co., N. C.	7/54	1, s, fl, r	-	0	0	0	0	0
4980	<i>Fuirena pumila</i>	Brunswick Co., N. C.	7/54	1, s, fl, r	-	0	0	0	0	0
4462	<i>Fuirena squarrosa</i>	Sussex Co., Del.	8/54	1, fl, r	-	0	0	0	0	0
4461	<i>Rhynchospora fascicularis</i>	Brunswick Co., N. C.	7/54	1, s, fl, r	-	0	0	0	0	0
4576	<i>Rhynchospora macrostachya</i>	Brunswick Co., N. C.	7/54	s, fl, r	-	0	0	0	0	0
4355	<i>Rhynchospora schoenoides</i>	Tift Co., Ga.	7/54	1, s, fl, r	-	0	0	0	0	0
4311	<i>Scirpus atrocinctus var. <i>Georgianus</i></i>	Chatham Co., N. C.	6/54	1, s, fl, r	-	0	0	0	0	0
4429	<i>Scirpus rubricosus</i> ( <i>S. cyperinus</i> var. <i>eriphorum</i> )	Brunswick Co., N. C.	6/54	1, s, fl, r	-	0	0	0	0	0
4591	<i>Scirpus robustus</i>	Brunswick Co., N. C.	7/54	1, s, fl	-	0	0	0	0	0
4699	<i>Scirpus rubricosus</i>	Somerset Co., Md.	7/54	1, s, fl	-	0	0	0	0	0
4387	<i>Scleria triglomerata</i>	King and Queen Co., Va.	7/54	1, s, fl	-	0	0	0	0	0
4441	<i>Scleria triglomerata</i>	Brunswick Co., N. C.	7/54	1, s, fl, r	-	0	0	0	0	0
4993	<i>Cliftonia monophylla</i>	Liberty Co., Fla.	7/54	1, s, fl	-	0	0	0	0	0
4171	<i>Cyrilla racemiflora</i>	Brunswick Co., N. C.	6/54	1, s, fl	-	0	0	0	0	0
4412	<i>Pyrilanthera barbulata</i>	Burlington Co., N. J.	DIAPENSIACEAE	7/54	1, s, r	-	0	0	0	0
4127	<i>Dioscorea deltoidea</i>	Karachi, Pakistan	DIOSCOREACEAE	4/54	t	+	0	0	0	0
4705	<i>Dioscorea deltoidea</i>	Murree, Pakistan		6/54	r	+	0	0	0	0
4138	<i>Dioscorea guatemalensis</i>	Monongalia Co., W. Va.		5/54	r	+	0	0	0	0
4006	<i>Dioscorea stegmanniana</i>	Tingo Maria, Peru		4/54	1, s	+	0	0	0	0



Accession No.	Species	Source	Date Collected	Plant Part	Hemolysis test			Alkaloids	Tannins	Sterols
					Flavonoids					
4385B	<i>Aleurites Montana</i>	C. G. F. C. G. F.	7/54	s	-	0	0	0	0	0
4715	<i>Antidesma platyphyllum</i>	Aguanga, Calif.	7/54	s, fr	-	0	0	+	++	++
4788	<i>Croton californicus</i>	Richmond Co., Ga.	7/54	s	-	0	0	0	0	0
4367	<i>Croton glandulosus</i>	Pulaski Co., Ky.	6/54	s, f, r	-	0	0	0	0	0
4618	<i>Croton monanthogynus</i>	Leon Co., Fla.	7/54	s, r	-	0	0	0	0	0
4893	<i>Euphorbia (Poinsettia) dentata</i>	Hammonton, N. J.	8/54	s, f	-	0	0	0	0	0
4398	<i>Euphorbia esula</i>	Atlantic Co., N. J.	8/54	s, f	-	0	0	0	0	0
4488	<i>Euphorbia heteracantha</i>	Nansemond Co., Va.	7/54	s, r	-	0	0	0	0	0
4735	<i>Euphorbia maculata</i>	New Hanover Co., N. C.	7/54	s, r	-	0	0	0	0	0
4898	<i>Euphorbia serpens</i>	Franklin Co., Fla.	7/54	s, f, r	-	0	0	0	0	0
4186	<i>Sisymbrium aquatica</i>	Brunswick Co., N. C.	8/54	s, f	-	0	0	0	0	0
4274	<i>Castanea ashei</i>	Brunswick Co., N. C.	6/54	s, f	-	0	0	0	0	0
4532	<i>Castanea dentata</i>	Buncombe Co., N. C.	6/54	s	-	0	0	0	0	0
4290	<i>Castanea pumila</i>	Anne Arundel Co., Md.	7/54	s	-	0	0	0	0	0
4201	<i>Fagus grandifolia</i>	Wake Co., N. C.	6/54	s, f	-	0	0	0	0	0
4308	<i>Quercus alba</i>	Chatatham Co., N. C.	6/54	s	-	0	0	0	0	0
4929	<i>Quercus falcata</i>	Sussex Co., Del.	6/54	s	-	0	0	0	0	0
4285	<i>Quercus ilicifolia</i>	Anne Arundel Co., Md.	8/54	s, f	-	0	0	0	0	0
4586	<i>Quercus marilandica</i>	Brunswick Co., N. C.	6/54	s, f	-	0	0	0	0	0
4921	<i>Quercus phellos</i>	Charles Co., Md.	7/54	s, f	-	0	0	0	0	0
4401	<i>Quercus prinoides</i>	Atlantic Co., N. J.	8/54	s	-	0	0	0	0	0
4533	<i>Quercus prinus</i>	Buncombe Co., N. C.	7/54	s	-	0	0	0	0	0
4075	<i>Quercus pumila</i>	Liberty Co., Ga.	7/54	s	-	0	0	0	0	0
4736	<i>Quercus stellata</i> var. <i>margaretta</i>	New Hanover Co., N. C.	4/54	s	-	0	0	0	0	0
4435	<i>Quercus Virginiana</i>	Brunswick Co., N. C.	7/54	s	-	0	0	0	0	0
4466	<i>Nymphaeoides aquatica</i>	Brunswick Co., N. C.	7/54	s, r	-	0	0	0	0	0
4908	<i>Nymphaeoides peltata</i>	Elmer, N. J.	8/54	s, f, r	-	0	0	0	0	0
4850	<i>Sabicea angularis</i>	Baltimore Co., Md.	8/54	s, fr, r	-	0	0	0	0	0
4491	<i>Sabicea difformis</i>	Onslow Co., N. C.	7/54	s, f, r	-	0	0	0	0	0
4499	<i>Sabicea kennedyana</i>	Horry Co., S. C.	7/54	s, f, r	-	0	0	0	0	0
4624	<i>Swartia Carolina</i>	Clinton Co., Ky.	7/54	s, f, r	-	0	0	0	0	0
4137	<i>Geranium maculatum</i>	Monongalia Co., W. Va.	5/54	GRANIACEAE	-	0	0	0	0	0
4939	<i>Ammodophila breviligulata</i>	Sussex Co., Del.	8/54	s, f, r	-	0	0	0	0	0
4415	<i>Amphiarium purshii</i>	Brunswick Co., N. C.	7/54	f, r	-	0	0	0	0	0
4578	<i>Andropogon scoparius</i>	Brunswick Co., N. C.	7/54	s, r	-	0	0	0	0	0
4751	<i>Andropogon Virginicus</i> var. <i>glaucopsis</i>	Carteret Co., N. C.	7/54	s, r	-	0	0	0	0	0
4910	<i>Aristida oligantha</i>	Hammonton, N. J.	7/54	s, r	-	0	0	0	0	0
4742	<i>Aristida stricta</i>	New Hanover Co., N. C.	8/54	f, r	-	0	0	0	0	0
4271	<i>Arundinaria tecta</i>	Brunswick Co., N. C.	6/54	s, f, r	-	0	0	0	0	0
4446	<i>Arundo donax</i>	Brunswick Co., N. C.	7/54	s	-	0	0	0	0	0

4721	<i>Axonopus compressus</i>	New Hanover Co., N. C.
4696	<i>Cenchrus tribuloides</i>	Worchester Co., Md.
4753	<i>Cenchrus tribuloides</i>	Carteret Co., N. C.
4432	<i>Ctenium aromaticum</i>	Brunswick Co., N. C.
4722	<i>Cynodon dactylon</i>	New Hanover Co., N. C.
4567	<i>Digitaria sanguinalis</i>	Brunswick Co., N. C.
4585	<i>Echinochloa waltevi</i>	Brunswick Co., N. C.
4487	<i>Eleusine indica</i>	Nansemond Co., Va.
4240	<i>Elymus Virginicus</i>	Johnston Co., N. C.
4681	<i>Eragrostis megastachya</i>	Dorchester Co., Md.
4906	<i>Eragrostis pilosa</i>	Anne Arundel Co., Md.
4938	<i>Eragrostis speciosissima</i>	Sussex Co., Del.
4219	<i>Hystrix pectinata</i>	Wake Co., N. C.
4447	<i>Leersia oryzoides</i>	Brunswick Co., N. C.
4768	<i>Panicum amarum</i>	Brunswick Co., N. C.
4451	<i>Panicum hemitomon</i>	Brunswick Co., N. C.
4326	<i>Panicum scoparium</i>	Brunswick Co., N. C.
4687	<i>Panicum virgatum</i>	Wake Co., N. C.
4268	<i>Paspalum dilatatum</i>	Dorchester Co., Md.
4256	<i>Paspalum floridanum</i> var. <i>glabratum</i>	Brunswick Co., N. C.
4746	<i>Paspalum floridanum</i> var. <i>glabratum</i>	Wake Co., N. C.
4168	<i>Paspalum urvillei</i>	Carteret Co., N. C.
4733	<i>Paragmites communis</i> var. <i>berlandieri</i>	Brunswick Co., N. C.
4694	<i>Polygonum monspeliacum</i>	New Hanover Co., N. C.
4931	<i>Saccharum spontaneum</i>	Somerset Co., Md.
4584	<i>Scirpus striata</i>	Sussex Co., Del.
4315	<i>Sorghum halapense</i>	Brunswick Co., N. C.
4445	<i>Spartina cynosuroides</i>	Wake Co., N. C.
4408	<i>Spartina patens</i>	Brunswick Co., N. C.
4762	<i>Spartina patens</i>	Parkertown, Atlantic Co., N. C.
4980	<i>Sphenotaphrum secundatum</i>	Carteret Co., N. C.
4924	<i>Trochidea flavia</i>	Wakulla Co., Fla.
4942	<i>Triplasis purpurea</i>	Charles Co., Md.
4255	<i>Triplacium dactyloides</i>	Sussex Co., Del.
4306	<i>Uniola laevis</i>	Wake Co., N. C.
4920	<i>Uniola lata</i>	Chatham Co., N. C.
4474	<i>Uniola paniculata</i>	Charles Co., Md.
4444	<i>Zizaniopsis miliacea</i>	Brunswick Co., N. C.
4723	<i>Zizaniopsis miliacea</i>	New Hanover Co., N. C.
4430	<i>Ascyrum hyperioides</i>	Brunswick Co., N. C.
4232	<i>Hypericum densiflorum</i>	Leon Co., Fla.
4259	<i>Hypericum densiflorum</i>	Macon Co., N. C.
4633	<i>Hypericum dolabiforme</i>	Bullitt Co., Ky.
4172	<i>Hypericum gaioides</i>	Brunswick Co., N. C.
4297	<i>Hypericum (Sarothra) gentianoides</i>	Caroline Co., Va.
344	<i>Hypericum myrtifolium</i>	Leon Co., Fla.
5772	<i>Hypericum nudiflorum</i>	Brunswick Co., N. C.
3899	<i>Hypericum perforatum</i>	Hanover Co., Va.

Accession No.	Species	Source	Date Collected	Plant Part	Hemolysis test		Flavonoids	Alkaloids	Tannins	Sterols
					Fia.	vanooids				
4844	<i>Hypericum punctatum</i> .	Wayne Co., Pa.	8/54	1, s, fl	-	0	0	0	++	++
4613	<i>Hypericum spathulatum</i>	Clay Co., Ky.	7/54	1, s, fl	-	0	+	0	++	++
4456	<i>Hypericum tubulosum</i> var. <i>walteri</i>	Brunswick Co., N. C.	7/54	1, s, fl	-	0	0	0	++	++
4915	<i>Hypericum Virginicum</i>	Atsion, N. J.	7/54	1, s, fl	-	0	0	0	++	++
4416	<i>Lachnanthes tinctoria</i>	Brunswick Co., N. C.	8/54	1, s, fl, r	-	0	0	0	++	++
4918	<i>Lachnanthes tinctoria</i>	Hammonton, N. J.	8/54	1, s, fl, r	-	0	0	0	++	++
4933	<i>Proserpinaca palustris</i>	Sussex Co., Del.	HALORAGACEAE 8/54	1, s, r	-	0	0	0	++	++
4424	<i>Hamamelis Virginiana</i>	Brunswick Co., N. C.	HAMAMELIDACEAE 7/54	1, s	-	0	0	0	++	++
4147	<i>Aesculus octandra</i>	Preston Co., W. Va.	HIPPOCASTANACEAE 5/54	1, s	-	0	0	0	++	++
4505	<i>Aesculus octandra</i>	Haywood Co., N. C.	HYDROCHARITACEAE 7/54	1, s	-	+	0	0	++	++
4926	<i>Vallisneria Americana</i>	Charles Co., Md.	HYDROPHYLACEAE 8/54	1, r	-	0	0	0	++	++
4978	<i>Vallisneria Americana</i>	Wakulla Co., Fla.	8/54	1, s, r	-	0	0	0	++	++
4675	<i>Hydrophyllum Canadense</i>	Harford Co., Md.	HYDROPHYLACEAE 7/54	1, s, r	-	0	0	0	++	++
4975	<i>Nama corymbosum</i>	Wakulla Co., Fla.	8/54	1, s, fl, r	-	0	0	0	++	++
4634	<i>Belamcanda Chinensis</i>	Bullitt Co., Ky.	IRIDACEAE 7/54	1, s, r	-	0	0	0	++	++
4864	<i>Iseetes riparia</i>	Harford Co., Md.	ISOETACEAE 8/54	1, s, r	-	0	0	0	++	++
4739	<i>Carya cordiformis</i>	New Hanover Co., N. C.	JUGLANDACEAE 7/54	1, s	-	0	0	0	++	++
4198	<i>Carya lomentosa</i>	Wake Co., N. C.	7/54	1, s	-	0	0	0	++	++
4209	<i>Juglans nigra</i>	Wake Co., N. C.	6/54	1, s	-	0	0	0	++	++
4932	<i>Juncus acuminatus</i>	Sussex Co., Del.	JUNCACEAE 8/54	1, fl, r	-	0	0	0	++	++
4187	<i>Juncus biflorus</i>	Brunswick Co., N. C.	8/54	s, fl, r	-	0	0	0	++	++
4427	<i>Juncus Canadensis</i>	Brunswick Co., N. C.	6/54	s, fl, r	-	0	0	0	++	++
4940	<i>Juncus Canadensis</i>	Sussex Co., Del.	7/54	1, s, fl, r	-	0	0	0	++	++
4426	<i>Juncus coriaceus</i>	Brunswick Co., N. C.	8/54	1, fl, r	-	0	0	0	++	++
4582	<i>Juncus repens</i>	Brunswick Co., N. C.	7/54	s, fl	-	0	0	0	++	++
4919	<i>Juncus scirpoides</i>	Charles Co., Md.	7/54	1, s, fl, r	-	0	0	0	++	++
4868	<i>Agastache nepetoides</i>	Harford Co., Md.	LABIATAE 8/54	1, fl	-	0	0	0	++	++
4813	<i>Blephilia hirsuta</i>	Yates Co., N. Y.	8/54	1, s, fl, r	-	0	0	0	++	++
4557	<i>Collinsonia Canadensis</i>	Macon Co., N. C.	8/54	1, s, fl, r	-	0	0	0	++	++
4999	<i>Conradina canescens</i>	Liberty Co., Fla.	7/54	1, s, r	-	0	0	0	++	++

4625	<i>Canila orientoides</i>	Hopkins Co., Ky.	0
4778	<i>Glechoma hederacea</i>	Baltimore Co., Md.	0
4296	<i>Hedera pulegoides</i>	Charles Co., Md.	0
4874	<i>Hypoxis multifilis</i>	Leon Co., Fla.	0
4951	<i>Hypoxis radiata</i>	Leon Co., Fla.	0
4878	<i>Leontis nepetifolia</i>	Leon Co., Fla.	0
4807	<i>Leonurus cardiaca</i>	Leon Co., Fla.	0
4822	<i>Lycopus Americanus</i>	Yates Co., N. Y.	0
4544	<i>Mentha piperita</i>	Yates Co., N. Y.	0
4596	<i>Mentha piperita</i>	Henderson Co., N. C.	0
4319	<i>Monarda fistulosa</i>	Washington Co., Md.	0
4905	<i>Monarda punctata</i>	Orange Co., N. C.	0
4894	<i>Monardia punctata</i>	Anne Arundel Co., Md.	0
4524	<i>Nepeta cataria</i>	Franklin Co., Fla.	0
4599	<i>Nepeta cataria</i>	Buncombe Co., N. C.	0
4782	<i>Perilla frutescens</i>	Allegany Co., Md.	0
4609	<i>Pycnanthemum clinopodioides</i>	Hartford Co., Md.	0
4239	<i>Pycnanthemum flexuosum</i>	Wyoming Co., W. Va.	0
4293	<i>Pycnanthemum tenuifolium</i>	Durham Co., N. C.	0
4649	<i>Physostegia Virginiana</i>	Charles Co., Md.	0
4362	<i>Salvia coccinea</i>	Rowan Co., Ky.	0
4802	<i>Salvia mullifera</i>	Toombs Co., N. C.	0
4651	<i>Scutellaria incana</i>	Murrieta, Calif.	0
4273	<i>Scutellaria integrifolia</i>	Gilmer Co., W. Va.	0
4346	<i>Stachys italicica</i>	Brunswick Co., N. C.	0
4476	<i>Tecoma Canadense</i>	Thomas Co., Ga.	0
4952	<i>Trichostema dichotomum</i>	Elizabeth City Co., Va.	0
4521	<i>Akebia quinata</i>	Leon Co., Fla.	0
4530	<i>Akebia quinata</i>	LARDIZABALACEAE	0
4190	<i>Sassafras albidum</i>	Sampson Co., N. C.	0
4124	<i>Acacia caffra</i>	LEGUMINOSAE	0
4158	<i>Acacia chlorophylla</i>	C. G. F.	0
4160	<i>Acacia concinna</i>	C. G. F.	0
4159	<i>Acacia dealbata</i>	C. G. F.	0
4161	<i>Acacia farnesiana</i>	C. G. F.	0
4162	<i>Acacia galpinii</i>	C. G. F.	0
4163	<i>Acacia koa</i>	C. G. F.	0
4164	<i>Acacia laeta</i>	C. G. F.	0
4165	<i>Acacia pollens</i>	C. G. F.	0
4729	<i>Aeschynomone indica</i>	New Hanover Co., N. C.	0
4229A	<i>Albizia adinocarpa</i>	C. G. F.	0
4229B	<i>Albizia adinocarpa</i>	C. G. F.	0
4381	<i>Albizia caribaea</i>	C. G. F.	0
4382	<i>Albizia chevalieri</i>	C. G. F.	0
4225	<i>Albizia Chinensis</i>	C. G. F.	0
4228A	<i>Albizia corbissieri</i>	C. G. F.	0

Accession No.	Species	Collection Source	LEGUMINOSAE	Hemolysis test	Flavonoids	Tannins	Sterols
		Date Collected	Plant Part				
4228B	<i>Albizia corbissieri</i>	C. G. F.	6/54	s	++	0	++
4229A	<i>Albizia falcatia</i>	C. G. F.	6/54	i	++	0	++
4229B	<i>Albizia falcatia</i>	Chatham Co., N. C.	6/54	s	++	0	++
4312	<i>Albizia julibrissin</i>	C. G. F.	6/54	i, s	++	0	++
4231A	<i>Albizia lucida</i>	C. G. F.	6/54	i	++	0	++
4231B	<i>Albizia lucida</i>	C. G. F.	6/54	i	++	0	++
4232A	<i>Albizia mollis</i>	C. G. F.	6/54	i	++	0	++
4232B	<i>Albizia mollis</i>	C. G. F.	6/54	i	++	0	++
4233A	<i>Albizia richardiana</i>	C. G. F.	6/54	i	++	0	++
4233B	<i>Albizia richardiana</i>	C. G. F.	6/54	i	++	0	++
4226	<i>Albizia sassa</i>	C. G. F.	6/54	i	++	0	++
4227	<i>Albizia syringa</i>	C. G. F.	6/54	i	++	0	++
4175	<i>Amorpha cerasoides</i>	Brunswick Co., N. C.	6/54	i, s, fl	++	0	++
4925	<i>Amorpha cf. fruticosa</i>	Charles Co., Md.	8/54	i, s, fl	++	0	++
4423	<i>Amorpha herbacea</i>	Brunswick Co., N. C.	7/54	i, s, fl	++	0	++
4795	<i>Astragalus pomonensis</i>	Dripping Springs, Calif.	7/54	i	++	0	++
4700	<i>Baphia alba</i>	Accomac, Va.	7/54	i, s, fr, r	++	0	++
4372	<i>Baphia cinerea</i>	Moore Co., N. C.	6/54	i, s	++	0	++
4339	<i>Baphia psammophila</i>	Leon Co., Fla.	6/54	i, s, fr, r	++	0	++
4242	<i>Baphia imectoria</i>	Wake Co., N. C.	6/54	i, s, fl, r	++	0	++
4284	<i>Baphia imectoria</i>	Alexandria, Va.	6/54	i, s, fl	++	0	++
4482	<i>Cassia fasciculata</i>	Elizabeth City Co., Va.	7/54	i, s, r	++	0	++
4888	<i>Cassia cf. litoralis</i>	Leon Co., Fla.	8/54	i, s	++	0	++
4848	<i>Cassia Marilandica</i>	Baltimore Co., Md.	8/54	i, s, fl, r	++	0	++
4889	<i>Cassia cf. multijuncta</i>	Leon Co., Fla.	8/54	i, s, r	++	0	++
4569	<i>Cassia nictians</i>	Brunswick Co., N. C.	7/54	i, s, r	++	0	++
4879	<i>Cassia occidentalis</i>	Leon Co., Fla.	8/54	i, s, r	++	0	++
4338	<i>Cassia tora</i>	Leon Co., Fla.	6/54	i, s, r	++	0	++
4587	<i>Cassia tora</i>	Brunswick Co., N. C.	7/54	i, s, fl	++	0	++
4760	<i>Centrosema Virginianum</i>	Carteret Co., N. C.	7/54	i, s, fl	++	0	++
4725	<i>Clitoria mariana</i>	New Hanover Co., N. C.	7/54	i, s, fl	++	0	++
4849	<i>Coronilla varia</i>	Baltimore Co., Md.	8/54	i, s, r	++	0	++
4957	<i>Crotalaria angustata</i>	Leon Co., Fla.	8/54	i, s, fr, r	++	0	++
4945	<i>Crotalaria cf. mucronata</i>	Leon Co., Fla.	8/54	i, s, fl, r	++	0	++
4872	<i>Crotalaria spectabilis</i>	Tingo Maria, Peru	4/54	i, s, r	++	0	++
4034	<i>Crotalaria sp.</i>	Irwin Co., Ga.	6/54	i, s	++	0	++
4356	<i>Dabbeneonia punicea</i>	Bradford Co., Pa.	8/54	i, s, fr	++	0	++
4838	<i>Desmodium Canadense</i>	Brunswick Co., N. C.	7/54	i, s, fl, r	++	0	++
4571	<i>Desmodium ciliare</i>	Leon Co., Fla.	8/54	i, s, r	++	0	++
4964	<i>Desmodium linatum</i>	Thomas Co., Ga.	6/54	i, s, r	++	0	++
4337	<i>Desmodium paniculatum</i>	New Hanover Co., N. C.	7/54	i, s, r	++	0	++
4727	<i>Desmodium tenuifolium</i>	New Hanover Co., N. C.	7/54	i, s, fl, r	++	0	++
4728	<i>Desmodium torquosum</i>	Leon Co., Fla.	8/54	i, s, fl	++	0	++
4965	<i>Desmodium virgatum</i>	Wakulla Co., Fla.	8/54	i, s, fl	++	0	++
4977	<i>Galactia mollis</i>	Moore Co., N. C.	6/54	i, s, fl	++	0	++
4371	<i>Galactia regularis</i>						



Accession No.	Species	Source	Date Collected	Plant Part	Hemolysis test				Tannins	Sterols
					LILIACEAE	Flavonoids	Alkaloids			
4351	<i>Aletris aurea</i>	Tift Co., Ga. C. G. F.	6/54	1, s, fl, r	+ <sup>a</sup>	0	0	0	0	0
4721	<i>Asparagus racemosus</i>	Monongalia Co., W. Va.	7/54	1, s	+ <sup>a</sup>	0	0	0	0	0
4653	<i>Clintonia umbellulata</i>	Monongalia Co., W. Va.	7/54	1, s, r	+ <sup>b</sup>	0	0	0	0	0
4654	<i>Disporum lanuginosum</i>	Monongalia Co., W. Va.	7/54	1, s, fr	-	0	0	0	0	0
4142	<i>Erythronium Americanum</i>	Macon Co., N. C. Frederick Co., Md.	5/54	1, s	-	0	0	0	0	0
4563	<i>Lilium superbum</i>	Irwin Co., Ga.	8/54	1, s, fl, r	+ <sup>a</sup>	0	0	0	0	+
4855	<i>Medeola Virginiana</i>	Wake Co., N. C.	6/54	1, s, fl, r	+ <sup>a</sup>	0	0	0	0	+
4357	<i>Melanthium Virginicum</i>	Wake Co., N. C.	4/54	1, s	+ <sup>a</sup>	0	0	0	0	+
4048	<i>Polygonatum biflorum</i>	Clarke Co., Ga.	4/54	1, s	+ <sup>a</sup>	0	0	0	0	+
4049	<i>Smilacina racemosa</i>	Leon Co., Fla.	4/54	1, s	-	0	0	0	0	0
4088	<i>Smilax rotundifolia</i>	Harford Co., Md.	8/54	t	-	0	0	0	0	0
4979	<i>Smilax sp.</i>	Preston Co., W. Va.	7/54	1, s, fr	+ <sup>b</sup>	0	0	0	0	0
4678	<i>Trillium flexipes</i>	Liberty Co., Fla.	5/54	1, s, r	+ <sup>a</sup>	0	0	0	0	0
4146	<i>Trillium grandiflorum</i>	8/54	1, s, fl, r	-	0	0	0	0	0	0
4988	<i>Zigadenus glaberrimus</i>	8/54	1, s, fl, r	-	0	0	0	0	0	0
4704	<i>Linum Floridanum</i>	Onslow Co., N. C. Caroline Co., Va.	7/54	1, s, fl, r	-	0	0	0	0	0
4388	<i>Linum Virginianum</i>	6/54	1, s, fl, r	-	0	0	0	0	0	0
4695	<i>Lobelia cardinalis</i>	Somerset Co., Md. Liberty Co., Fla.	7/54	1, s, fl, r	-	0	0	0	0	0
4985	<i>Lobelia glandulifera</i>	Brunswick Co., N. C.	3/54	1, s, r	-	0	0	0	0	0
4454	<i>Polypteron procumbens</i>	Carteret Co., N. C. Chatham Co., N. C.	LYCOPODIACEAE	1, s, fl	-	0	0	0	0	0
4761	<i>Lycopodium alopecuroides</i>	Atlantic Co., N. J. Preston Co., W. Va.	7/54	w	-	0	0	0	0	0
4314	<i>Lycopodium complanatum</i> var. <i>flabelliforme</i>	Sussex Co., Del. Brunswick Co., N. C. Wakulla Co., Fla.	6/54	w	-	0	0	0	0	0
4404	<i>Lycopodium inundatum</i> var. <i>bigelovii</i>	7/54	w, r	-	0	0	0	0	0	0
4657	<i>Lycopodium lucidulum</i>	7/54	w	-	0	0	0	0	0	0
4934	<i>Decodon verticillatus</i>	LYTHRACEAE	8/54	1, s, fl	-	0	0	0	0	0
4449	<i>Lasiosstroemia indica</i>	7/54	1, s, fl	-	0	0	0	0	0	0
4972	<i>Lithrum lineare</i>	8/54	1, s	-	0	0	0	0	0	0
4093	<i>Liriodendron tulipifera</i>	MAGNOLIACEAE	1	-	0	0	0	0	0	0
4623	<i>Magnolia acuminata</i>	Clarke Co., Ga. Wayne Co., Ky.	4/54	1	-	0	0	0	0	0
4511	<i>Magnolia fraseri</i>	Haywood Co., N. C.	7/54	1, s	-	0	0	0	0	0
4222	<i>Magnolia tripetala</i>	6/54	1, s, fr	-	0	0	0	0	0	0
4080	<i>Magnolia Virginiana</i>	4/54	1	-	0	0	0	0	0	0
4174	<i>Antilon theophrasti</i>	Baltimore Co., Md.	6/54	1, s, r	-	0	0	0	0	0
4354	<i>Hibiscus aculeatus</i>	Tift Co., Ga.	6/54	1, s, fl, r	-	0	0	0	0	0
4359	<i>Hibiscus miliaris</i>	Irwin Co., Ga.	6/54	1, s, fl, r	-	0	0	0	0	0

4631	<i>Hibiscus militaris</i>	Daviess Co., Ky.	7/54	1, s
4275	<i>Hibiscus moscheutos</i>	Chatham Co., N. C.	6/54	1, s
4701	<i>Hibiscus trionum</i>	Somerset Co., Md. <sup>b</sup>	7/54	1, s, fl, r
4477	<i>Kosteletzya Virginica</i>	Elizabeth City Co., Va.	7/54	1, s, r
4600	<i>Malva moschata</i>	Garrett Co., Md.	7/54	1, s, fl, r
4805	<i>Malva roundifolia</i>	Yates Co., N. Y.	8/54	1, s, fl, r
4370	<i>Sida rhombifolia</i>	Scotland Co., N. C.	6/54	1, s, fl, r
4783	<i>Sida spinosa</i>	Baltimore Co., Md.	7/54	1, s, fl, r
4023	<i>Clidemia capitellata</i>	Tingo Maria, Peru	4/54	1, s
4038	<i>Leandra lachiotoma</i>	Tingo Maria, Peru	4/54	1, s
4037	<i>Miconia clathrantha</i>	Tingo Maria, Peru	4/54	1, s
4336	<i>Rhexia alijanus</i>	Leon Co., Fla.	4/54	1, s, fl, fr, r
4335	<i>Rhexia cubensis</i>	Leon Co., Fla.	6/54	1, s, fl, r
4358	<i>Rhexia lutea</i>	Tift Co., Ga.	6/54	1, s, fl, r
4298	<i>Rhexia mariana</i>	Hanover Co., Va.	6/54	1, s, fl, r
4574	<i>Rhexia mariana</i>	Brunswick Co., N. C.	7/54	1, s, fl, r
4091	<i>Coccinia Carolinensis</i>	Clarke Co., Ga.	4/54	1, s
4140	<i>Menispermum Canadense</i>	Monongalia Co., W. Va.	5/54	1, s
4720	<i>Ariocarpus hypanthoides</i>	MORACEAE	7/54	1, s
4095	<i>Broussonetia papyrifera</i>	C. G. F.	4/54	1, s
4289	<i>Broussonetia papyrifera</i>	Clarke Co., Ga.	0	0
4116	<i>Ficus bonplandiana</i>	Baltimore Co., Md.	0	0
4113	<i>Ficus callosa</i>	C. G. F.	0	0
4108	<i>Ficus carica</i>	C. G. F.	0	0
4111	<i>Ficus cotinifolia</i>	C. G. F.	0	0
4118	<i>Ficus dieffenbachia</i>	C. G. F.	0	0
4106	<i>Ficus kerstingii</i>	C. G. F.	0	0
4115	<i>Ficus lucens</i>	C. G. F.	0	0
4112	<i>Ficus nymphaeaefolia</i>	C. G. F.	0	0
4114	<i>Ficus odorata</i>	C. G. F.	0	0
4117	<i>Ficus petiolaris</i>	C. G. F.	0	0
4105	<i>Ficus payapae</i>	C. G. F.	0	0
4119	<i>Ficus radula</i>	C. G. F.	0	0
4120	<i>Ficus radiata</i>	C. G. F.	0	0
4109	<i>Ficus trachyphylla</i>	C. G. F.	0	0
4107	<i>Ficus tsiela</i>	C. G. F.	0	0
4110	<i>Ficus urbaniana</i>	C. G. F.	0	0
4157	<i>Ficus ureolarella</i>	C. G. F.	0	0
4121	<i>Humulus Japonicus</i>	C. G. F.	0	0
4254	<i>Macatura pomifera</i>	Johnston Co., N. C.	5/54	1, s
4288	<i>Morus alba</i>	Baltimore Co., Md.	6/54	1, s
4241	<i>Myrica pustilla</i>	Wake Co., N. C.	6/54	1, s
4046		Wake Co., N. C.	4/54	1, s
4283	<i>Comptonia peregrina</i>	MYRICACEAE	6/54	1, s
4995	<i>Myrica Carolina (Pennsylvanica)</i>		8/54	1, s, fr
4740	<i>Myrica pustilla</i>	New Hanover Co., N. C.	7/54	0

Accession No.	Species	Collection	Source	C. G. F.	MYRTACEAE	Date Collected	Plant Part	Hemolysis test	Flavonoids	Alkaloids	Tannins	Sterols	
4122	<i>Eucalyptus Algériensis</i>					5/54	1, s	-	0	0	0	0	
4494	<i>Mirabilis jalapa</i>		Craven Co., N. C.		NYCTAGINACEAE	7/54	1, s, fl	-	0	+	0	0	
4912	<i>Mirabilis nyctaginea</i>		Hammonton, N. J.		NYMPHAEACEAE	8/54	1, s, fl, r	-	0	0	0	0	
4947	<i>Nelumbo lutea</i>		Leon Co., Fla.			8/54	1, s, fl, fr	-	0	0	0	0	
4987	<i>Nuphar advena</i>		Liberty Co., Fla.			8/54	1, s, fr, r	-	0	0	0	0	
4299	<i>Nymphaea odorata</i>		Anne Arundel Co., Md.			6/54	1, s, r	-	0	0	0	0	
4465	<i>Nymphaea odorata</i>		Brunswick Co., N. C.		NYSSACEAE	7/54	1, s, fl, r	-	0	0	0	0	
4489	<i>Nyssa aquatica</i>		Bertie Co., N. C.			7/54	1, s	-	0	0	0	0	
4173	<i>Nyssa sylvatica</i> var. <i>biflora</i>		Brunswick Co., N. C.			7/54	1, s	-	0	0	0	0	
4050	<i>Chionanthus Virginicus</i>		OLEACEAE	6/54		1, s		-	0	0	0	0	
4203	<i>Fraxinus Americana</i>		Hancock Co., Ga.					-	+	0	0	0	
4176	<i>Fraxinus Caroliniana</i>		Wake Co., N. C.			4/54	1	-	0	0	0	0	
4096	<i>Jasminum humile</i>		Brunswick Co., N. C.			6/54	1, s	-	0	0	0	0	
4664	<i>Epilobium angustifolium</i>		Clark Co., Ga.		ONAGRACEAE	4/54	1, s	-	0	+	0	0	
4821	<i>Epilobium hirsutum</i>		Garrett Co., Md.			7/54	1, s, fl, r	-	0	0	0	0	
4961	<i>Gaura biennis</i>		Yates Co., N. Y.			8/54	1, s, fl, r	-	0	0	0	0	
4182	<i>Gaura filipes</i>		Brunswick Co., N. C.			6/54	1, s, r	-	0	0	0	0	
4188	<i>Jussiaea michauxiana</i>		Leon Co., Fla.			8/54	1, s, r	-	0	0	0	0	
4407	<i>Kneiffia linearis</i> (Oenothera fruticosa var. linearis)		New Hanover Co., N. C.			7/54	1, s, r	-	0	0	0	0	
4352	<i>Ludwigia alternifolia</i>		Atlantic Co., N. J.			7/54	1, s, fl, r	-	0	0	0	0	
4866	<i>Ludwigia linearis</i>		Benhill Co., Ga.			6/54	1, s, r	-	0	0	0	0	
4986	<i>Ludwigia pilosa</i>		Brunswick Co., N. C.			6/54	1, s, r	-	0	0	0	0	
4459	<i>Ludwigia suffruticosa</i>		Liberty Co., Fla.			7/54	1, s	-	0	0	0	0	
4353	<i>Ludwigia virgata</i>		Brunswick Co., N. C.			8/54	1, s, fl, r	-	0	0	0	0	
4166	<i>Oenothera biennis</i>		Benhill Co., Ga.			7/54	1, s, r	-	0	0	0	0	
4922	<i>Trapa natans</i>		Brunswick Co., N. C.			6/54	1, s, fl, r	-	0	0	0	0	
			Charles Co., Md.			6/54	1, s, r	-	0	0	0	0	
4862	<i>Botrychium Virginianum</i>		OPHIOGLOSSACEAE			8/54	fr	-	0	0	0	0	
4870	<i>Conopholis Americana</i>		Frederick Co., Md.					-	0	0	0	0	
4603	<i>Osmunda cinnamomea</i>		OROBANCHACEAE	8/54				-	0	0	0	0	
4856	<i>Osmunda claytoniana</i>		OSMUNDACEAE	8/54				-	0	0	0	0	
4072	<i>Osmunda regalis</i>		McIntosh Co., Ga.			4/54	1	-	0	0	0	0	
			Frederick Co., Md.			8/54	1	-	0	0	0	0	
			McIntosh Co., Ga.			4/54	1	-	0	0	0	0	
4785	<i>Oxalis Europea f. cymosa</i>		OXALIDACEAE					-	0	0	0	0	
4086	<i>Oxalis stricta</i>		Baltimore Co., Md.			7/54	1, s, r	-	0	0	0	0	
			Clarke Co., Ga.			4/54	1, s	-	0	0	0	0	



Accession No.	Species	Source	Date Collected	Plant Part	Collection					
					Hemolysis test	Flavonoids	Alkaloids	Tannins	Sterols	
4390	<i>Polygonia mariana</i>	Caroline Co., Va.	7/54	l, s, fl, r	+*	0	0	0	..	..
4434	<i>Polygonia ramosa</i>	Brunswick Co., N. C.	7/54	l, s, fl, r	-	0	0	0	..	..
4798	<i>Eriogonum gracile</i>	Dripping Springs, Calif.	7/54	w	-	+	0	0	..	..
4360	<i>Eriogonum lomentosum</i>	Emmanuel Co., N. C.	6/54	l, s, fl, r	-	0	0	0	..	..
4820	<i>Fagopyrum esculentum</i> ( <i>F. sagittatum</i> )	Yates Co., N. C.	8/54	l, s, fl, r	-	0	0	0	..	..
4368	<i>Polygonella Americana</i>	Richmond Co., Ga.	6/54	l, s, fl, r	-	0	0	0	..	..
4984	<i>Polygonella gracilis</i>	Liberty Co., Fla.	8/54	s, r	-	0	0	0	..	..
4730	<i>Polygonum aviculatum</i>	New Hanover Co., N. C.	7/54	l, s	-	0	0	0	..	..
4869	<i>Polygonum caspidatum</i>	Harford Co., Md.	8/54	l, s, fl	-	0	0	0	..	..
4318	<i>Polygonum pensylvanicum</i>	Wake Co., N. C.	6/54	l, s	-	0	0	0	..	..
4899	<i>Thysanella fimbriata</i>	Franklin Co., Fla.	8/54	l, s, fl, r	-	0	0	0	..	..
4861	<i>Tonara Virginiana</i>	Frederick Co., Md.	8/54	l, s, fl, r	-	0	0	0	..	..
4857	<i>Adiantum pedatum</i>	Frederick Co., Md.	8/54	l, s, r	-	0	0	0	..	..
4669	<i>Althyrium thelypteroides</i>	Baltimore Co., Md.	7/54	l, s	-	0	0	0	..	..
4548	<i>Dennstaedtia punctilobula</i>	Transylvania Co., N. C.	7/54	l, s, r	-	0	0	0	..	..
4858	<i>Dryopteris hexagonoptera</i>	Frederick Co., Md.	8/54	l, s, r	-	0	0	0	..	..
4677	<i>Dryopteris marginalis</i>	Harford Co., Md.	7/54	l, s, r	-	0	0	0	..	..
4213	<i>Dryopteris noveboracensis</i>	Wake Co., N. C.	6/54	l, s	-	0	0	0	..	..
4536	<i>Onoclea sensibilis</i>	Buncombe Co., N. C.	7/54	l, s	-	0	0	0	..	..
4655	<i>Foersteria virginianum</i>	Kinston, N. C.	7/54	l, s, r	-	0	0	0	..	..
4438	<i>Woodwardia areolata</i>	Brunswick Co., N. C.	7/54	l, s	-	0	0	0	..	..
4071	<i>Pontederia cordata</i>	McIntosh Co., Ga.	4/54	l	-	0	0	0	..	..
4731	<i>Portulaca oleracea</i>	PORTULACACEAE	7/54	l, s, fl, r	-	0	0	0	..	..
4784	<i>Portulaca oleracea</i>	Baltimore Co., Md.	7/54	l, s, fl, r	-	0	0	0	..	..
4927	<i>Potamogeton cf. perfoliatus</i>	Charles Co., Md.	PRIMULACEAE	8/54	l, s, fl	-	0	0	0	..
4601	<i>Lysimachia quadrifolia</i>	Tucker Co., W. Va.	RANUNCULACEAE	7/54	l, s, r	-	+	0	0	..
4564	<i>Lysimachia quadrifolia</i>	Macon Co., N. C.	7/54	l, s, fl, r	-	+	0	0	0	..
4867	<i>Lysimachia vulgaris</i>	Harford Co., Md.	8/54	l, s, fl, r	-	0	0	0	0	..
4606	<i>Anemone Virginiana</i>	Raleigh Co., W. Va.	7/54	l, s, fl, r	-	+	0	0	..	..
4129	<i>Anemonella thalictroides</i>	Washington Co., Md.	5/54	l, s	-	0	0	0	..	..
4139	<i>Cimicifuga racemosa</i>	Monongalia Co., W. Va.	5/54	l, s, r	-	0	0	0	..	..
4141	<i>Clematis Virginiana</i>	Monongalia Co., W. Va.	5/54	l, s	-	0	0	0	..	..
4149	<i>Hepatica acutiloba</i>	Preston Co., W. Va.	5/54	l, s, r	-	0	0	0	..	..
4801	<i>Paeonia braunii</i>	Dripping Springs, Calif.	7/54	w	-	0	0	0	..	..
4406	<i>Thalictrum polygamum</i>	Atlantic Co., N. J.	7/54	l, fl, r	-	0	0	0	..	..
4542	<i>Xanthorhiza simplicissima</i>	Henderson Co., N. C.	7/54	l, s, r	-	0	0	0	..	..

		RHAMNACEAE	ROSACEAE	RUBIACEAE
4749	<i>Berchemia scandens</i>	Carteret Co., N. C.	7/54 1, s, fl, r	
4223	<i>Ceanothus Americanus</i>	Wake Co., N. C.	6/54 1, s, fl	
4824	<i>Rhamnus cathartica</i>	Yates Co., N. Y.	8/54 1, s, fr	
4622	<i>Rhamnus lanceolatus</i>	Wayne Co., Ky.	7/54 1, s	
4792	<i>Adenostoma sparsifolium</i>	Dripping Springs, Calif.	7/54 1, s, fl, r	
4531	<i>Agrimonia gryposepala</i>	Buncombe Co., N. C.	7/54 1, s, fl, r	
4309	<i>Agrimonia parviflora</i>	Chatham Co., N. C.	6/54 1, s, r	
4195	<i>Aronia arbutifolia</i>	Sampson Co., N. C.	6/54 1, s, r	
4603	<i>Arunca dioicus</i>	Clay Co., W. Va.	7/54 1, s, fl, r	
4670	<i>Chaenomeles lagenaria</i>	Baltimore Co., Md.	7/54 1, s, fl, r	
4996	<i>Chrysobalanus oblongifolius</i>	Liberty Co., Fla.	7/54 1, s, fl, r	
4815	<i>Geum aleppicum</i> var. <i>strictum</i>	Yates Co., N. Y.	8/54 1, s, fl, r	
4626	<i>Gilia stipitata</i>	Hopkins Co., Ky.	8/54 1, s, fl, r	
4602	<i>Gilia trifoliata</i>	Randolph Co., W. Va.	7/54 1, s, fl, r	
4394	<i>Physocarpus opulifolius</i>	Baltimore Co., Md.	7/54 1, s, fl, r	
4812	<i>Potentilla recta</i>	Yates Co., N. Y.	7/54 1, s, fl	
4765	<i>Prunus incisa</i>	Aghanga, Calif.	8/54 1, s, fl, r	
4944	<i>Prunus maritima</i>	Sussex Co., Del.	8/54 1, s	
4560	<i>Prunus Pensylvanica</i>	Macon Co., N. C.	8/54 1, s	
4823	<i>Prunus Virginiana</i>	Yates Co., N. Y.	7/54 1, s	
4145	<i>Pyrus (Malus) coronaria</i>	Taylor Co., W. Va.	8/54 1, s, fl, r	
4943	<i>Pyrus (Malus) sp.</i>	Sussex Co., Del.	5/54 1, s	
4479	<i>Rosa Carolina</i>	Ziazuil City Co., Va.	8/54 1, s	
4527	<i>Rubus argutus</i>	Wake Co., N. C.	7/54 1, s, fl	
4767	<i>Rubus cuneifolius</i>	Carteret Co., N. C.	6/54 1, s, fl	
4523	<i>Rubus idaeus</i> var. <i>Canadensis</i>	Buncombe Co., N. C.	7/54 1, s	
4832	<i>Rubus idaeus</i> var. <i>strigosus</i>	Cayuta Lake, N. Y.	7/54 1, s	
4508	<i>Rubus odoratus</i>	Haywood Co., N. C.	8/54 1, s	
4661	<i>Rubus odoratus</i>	Garrett Co., Md.	7/54 1, s, fl	
4667	<i>Rubus phoenicolasius</i>	Baltimore Co., Md.	7/54 1, s, fl	
4780	<i>Sanguisorba Canadensis</i>	Baltimore Co., Md.	7/54 1, s, fl	
4837	<i>Sorbaria sorbifolia</i>	Bradford Co., Pa.	7/54 1, s, fl	
4703	<i>Spiraea tomentosa</i>	Wicomico Co., Md.	8/54 1, s, fl, r	
4384	<i>Adina cordifolia</i>	7/54 1, s, r		
4383A	<i>Alibertia edulis</i>	C. G. F.	7/54 1, s	
4383B	<i>Alibertia edulis</i>	C. G. F.	7/54 1, s	
4383C	<i>Alibertia edulis</i>	C. G. F.	7/54 1, s	
4062	<i>Cephaelanthus occidentalis</i>	McIntosh Co., Ga.	7/54 1, s	
4004	<i>Chiococca sp.</i>	Tingo Maria, Peru	4/54 fr	
4305	<i>Diodia teres</i>	Caroline Co., Va.	4/54 1, s	
4366	<i>Diodia teres</i>	Richmond Co., Ga.	6/54 1, s, r	
4448	<i>Diodia Virginiana</i>	Ossian Co., N. C.	6/54 1, s, r	
4537	<i>Gaultheria laevigatum</i>	Buncombe Co., N. C.	7/54 1, s, fl, r	
4834	<i>Gaultheria verum</i>	Mecklenburg, N. Y.	8/54 1, s, fl, r	
4033	<i>Gonzalagunia bunchosoides</i>	Tingo Maria, Peru	4/54 1, s, b	
4012	<i>Hilia parasitica</i>	Tingo Maria, Peru	4/54 1, s	

Accession No.	Species	Source	Date Collected	Plant Part	Hemo-		Alkaloids	Tannins	Sterols
					Collection	test			
4635	<i>Houstonia nigricans</i>	Bullitt Co., Ky.	7/54	l, s, fl	-	++	+	++	:
4348	<i>Pinckneya pubens</i>	Tift Co., Ga.	6/54	l, s, fr	-	0	+	0	0
4267	<i>Richardia scabra</i>	Brunswick Co., N. C.	6/54	l, s, r	-	0	0	0	0
4714	<i>Atalantia citroides</i>	C. G. F. Chico, Calif.	RUTACEAE 7/54	l, s, fr 5/54	- <sup>a</sup>	0	0	0	0
4152	<i>Citrus limon</i>								0
4473	<i>Populus alba</i>	Brunswick Co., N. C.	7/54	l, s, fr	-	+	0	0	0
4497	<i>Populus heterophylla</i>	Bertie Co., N. C.	7/54	l, s	-	0	0	0	0
4841	<i>Populus tremuloides</i>	Wayne Co., Pa.	7/54	l, s	-	0	0	0	0
4237	<i>Salix discolor</i>	Durham Co., N. C.	8/54	l, s	-	0	0	0	0
4671	<i>Salix discolor</i>	Baltimore Co., Md.	6/54	l, s	-	0	0	0	0
4136	<i>Comandra umbellata</i>	Washington Co., Md.	SANTALACEAE 5/54	l, s	-	0	0	0	0
4541	<i>Pyrularia pubera</i>	Henderson Co., N. C.	5/54	l, s, fr	-	0	0	0	0
4005	<i>Cardiospermum sp.</i>	Tingo Maria, Peru C. G. F.	SAPINDACEAE 5/54	l, s	-	0	0	0	0
4125	<i>Sapindus saponaria</i>	Bullock Co., Ga. Anne Arundel Co., Md.	SARRACENIACEAE 4/54 6/54	l, s, r	-	0	0	0	0
4081	<i>Sarracenia flava</i>								0
4294	<i>Sarracenia purpurea</i>								0
4378	<i>Lucuma ovalis</i>	C. G. F.	SAPOTACEAE 7/54	l, s	-	+	0	0	0
4064	<i>Saururus cernuus</i>	McIntosh Co., Ga.	SAXIFRAGACEAE 4/54	l	-	0	0	0	0
4509	<i>Astilbe biternata</i>	Haywood Co., N. C. Clarke Co., Ga.	SAXIFRAGACEAE 7/54 4/54	l, s, fl, r	-	0	0	0	+
4087	<i>Decumaria barbara</i>	Wyoming Co., W. Va.	4/54	l	-	0	0	0	0
4607	<i>Heuchera americana</i>	Buncombe Co., N. C.	7/54	l, s, fl, r	-	0	0	0	0
4534	<i>Hydrangea arborescens</i>	Haywood Co., N. C.	7/54	l, s, fl	-	0	0	0	0
4513	<i>Hydrangea radiata</i>	Washington Co., Md.	7/54	l, s, fl	-	0	0	0	0
4132	<i>Saxifraga Virginiana</i>	Brunswick Co., N. C.	5/54	l, s, fl	-	0	0	0	0
4457	<i>Itea Virginica</i>		7/54	l, s, fl	-	0	0	0	0
4217	<i>Aureolaria pectinata</i>	Wake Co., N. C.	SCROPHULARIACEAE 6/54	l, s, r	-	0	0	0	0
4310	<i>Aureolaria Virginica</i>	Chatham Co., N. C.	6/54	l, s, r	-	0	0	0	0
4460	<i>Baeopa Caroliniana</i>	Brunswick Co., N. C.	6/54	l, s, r	-	0	0	0	0
4797	<i>Cordyline filifolius</i>	Dripping Springs, Calif.	7/54	l, s, r	-	0	0	0	0
4779	<i>Digitalis purpurea</i>	Baltimore Co., Md.	7/54	l	-	0	0	0	0
4399	<i>Gerardia pedicularia</i>	Atlantic Co., N. J.	7/54	l, s, fl, r	-	0	0	0	0
4391	<i>Gerardia Virginica</i>	Hanover Co., Va.	7/54	l, s, r	-	0	0	0	0

4894	<i>Macranthera flammula</i>	Liberty Co., Fla.	8/54	l, s
4400	<i>Melampyrum lineare</i>	Atlantic Co., N. J.	7/54	l, s, fl, r
4610	<i>Mimulus ringens</i>	Mingo Co., W. Va.	7/54	l, s, r
4098	<i>Paulownia tomentosa</i>	Clarke Co., Ga.	4/54	1
4100	<i>Paulownia tomentosa</i>	Clarke Co., Ga.	7/54	l, s, fl, r
4515	<i>Peltaria canadensis</i>	Haywood Co., N. C.	4/54	1
4260	<i>Pentstemon laevigatus</i>	Wake Co., N. C.	7/54	l, s
4350	<i>Pentstemon multiflorus</i>	Tift Co., Ga.	6/54	l, s, fl, r
4956	<i>Seymeria cassidea</i>	Leon Co., Fla.	6/54	l, s, fl, r
4594	<i>Verbasacum blattaria</i>	Carroll Co., Md.	7/54	l, s, fl, r
4866	<i>Veronica anagallis-aquatica</i>	Harford Co., Md.	8/54	l, s, fl, r
4547	<i>Selaginella rupestris</i>	Transylvania Co., N. C.	7/54	l, s
4264	<i>Ailanthus altissima</i>	Brunswick Co., N. C.	6/54	+
4708	<i>Cestrum nocturnum</i>	SOLANACEAE	8/54	l, s
4709	<i>Cestrum parqui</i>	C. G. F.	8/54	l, s
4379A	<i>Cestrum parqui</i>	C. G. F.	8/54	l, s
4379B	<i>Cestrum parqui</i>	C. G. F.	7/54	1
4371A	<i>Cestrum sp.</i>	C. G. F.	7/54	tw
4713B	<i>Cestrum sp.</i>	C. G. F.	8/54	l, s
1-55	<i>Datura stramonium</i>	C. C. F.	8/54	fr
4641	<i>Datura stramonium</i>	Nansemond Co., Va.	7/54	l, s
4097	<i>Lycium halimifolium</i>	Bullitt Co., Ky.	7/54	l, s
4769	<i>Physalis maritima</i>	Clarke Co., Ga.	4/54	1
4054	<i>Physalis viscosa</i>	Brunswick Co., N. C.	7/54	l, s, fr, r
4288	<i>Solanum Carolinense</i>	McIntosh Co., Ga.	4/54	l, s, fr, r
4134	<i>Solanum dulcamara</i>	Wake Co., N. C.	6/54	l, s, fr, r
4738	<i>Solanum nigrum</i>	Washington Co., Md.	5/54	l, s, fr, r
		New Hanover Co., N. C.	7/54	l, s, fl, r
4583	<i>Sparganium Americanum</i>	SPARGANIACEAE	7/54	l, s, fl, r
4674	<i>Staphylea trifolia</i>	Brunswick Co., N. C.	7/54	l, s, fl, r
4123	<i>Abroma augusta</i>	Harford Co., Md.	7/54	l, s, fl, r
		C. G. F.	6/54	l, s, fr
4084	<i>Halesia Carolina</i>	STYRACACEAE	4/54	l
4556	<i>Halesia Carolina</i>	Clarke Co., Ga.	7/54	l, s, fr
4512	<i>Styrax grandifolia</i>	Macon Co., N. C.	7/54	l, s
		Haywood Co., N. C.	7/54	l, s
4433	<i>Symplocos tinctoria</i>	SYMPLOCACEAE	0	0
1469	<i>Tamarix gallica</i>	TAMARICACEAE	7/54	l, s
		Brunswick Co., N. C.	7/54	+
		Brunswick Co., N. C.	7/54	0

Accession No.	Species	Source	TILLACEAE	Date Collected	Plant Part	Hemolysis test		Flavonoids	Alkaloids	Tannins	Sterols
4676	<i>Tilia Americana</i>	Harford Co., Md.		7/54	1, s, fr	-	0	0	0	+	++
4313	<i>Tilia Floridana</i>	Chatham Co., N. C.		6/54	1, s, fl	-	0	0	0	0	++
4024	<i>Trumfetta sp.</i>	Tingo Maria, Peru		4/54	1, s, fr	-	0	0	0	0	++
4953	<i>Piriqueta Caroliniana</i>	Leon Co., Fla.	TURNERACEAE	8/54	1, s, fl, r	-	0	0	0	0	++
4772	<i>Typha glauca</i>	Brunswick Co., N. C.	TYPHACEAE	7/54	1, s, fr	-	0	0	0	0	++
4431	<i>Typha latifolia</i>	Brunswick Co., N. C.		7/54	1, s, fr, r	-	0	+	0	0	++
4475	<i>Celtis laevigata</i>	Elizabeth City Co., Va.	ULMACEAE	7/54	1, s	-	0	0	0	0	++
4645	<i>Celtis occidentalis</i>	Mason Co., Ky.		7/54	1, s, fl, r	-	0	0	0	0	++
4621	<i>Ulmus alata</i>	Wayne Co., Ky.		7/54	1, s	-	0	0	0	0	++
4202	<i>Ulmus Americana</i>	Wake Co., N. C.		6/54	1, s	-	0	0	0	0	++
4555	<i>Angelica triquinata</i>	Macon Co., N. C.	UMBELLIFERAE	7/54	1, s, fl, r	-	0	0	0	0	++
4262	<i>Anemone villosa</i>	Johnston Co., N. C.		6/54	1, s, fl, r	-	0	0	0	0	++
4236	<i>Cicuta maculata</i>	Durham Co., N. C.		5/54	1, s, fl, r	-	0	0	0	0	++
4155	<i>Cimicifuga ericacea</i>	Brunswick Co., N. C.		5/54	1, s	-	0	0	0	0	++
4833	<i>Comioselinum Chinense</i>	Mecklenburg, N. Y.		7/54	1, s, r	-	0	0	0	0	++
4754	<i>Eryngium aquaticum</i>	Carteret Co., N. C.		8/54	1, s, fl	-	0	0	0	0	++
4341	<i>Eryngium prostratum</i>	Leon Co., Fla.		7/54	1, fl, r	-	0	0	0	0	++
4369	<i>Eryngium yuccifolium</i>	Emmanuel Co., Ga.		6/54	1, s, fl	-	0	0	0	0	++
4519	<i>Lewistotum officinale</i>	Buncombe Co., N. C.		6/54	1, s, fl	-	0	0	0	0	++
4324	<i>Ligustricium Canadense</i>	Orange Co., N. C.		7/54	1, s, fl, r	-	0	0	0	0	++
4860	<i>Osmorhiza claytonii</i>	Frederick Co., Md.		6/54	1, s, fl	-	0	0	0	0	++
4976	<i>Oxybaphus filiformis</i>	Wakulla Co., Fla.		8/54	1, s, r	-	0	0	0	0	++
4672	<i>Petroselinum crispum</i>	Baltimore Co., Md.		8/54	1, s, r	-	0	0	0	0	++
4167	<i>Ptiliumnium capillaceum</i>	Brunswick Co., N. C.		7/54	1, s, r	-	0	0	0	0	++
4333	<i>Sanicula Marylandica</i>	Wake Co., N. C.		6/54	1, s, fl	-	0	0	0	0	++
4755	<i>Sium suave</i>	Carteret Co., N. C.		6/54	1, s, r	-	0	0	0	0	++
4642	<i>Torilis Japonica</i>	Anderson Co., Ky.		7/54	1, s, fl	-	0	0	0	0	++
4683	<i>Boehmeria cylindrica</i>	Dorchester Co., Md.	URTICACEAE	7/54	1, s, fl, r	-	0	0	0	0	++
4270	<i>Boehmeria drummondii</i>	Brunswick Co., N. C.		6/54	1, s, r	-	0	0	0	0	++
4150	<i>Laportea Canadensis</i>	Preston Co., W. Va.		5/54	1, s, r	-	0	0	0	0	++
4673	<i>Pilea pumila</i>	Harford Co., Md.		7/54	1, s, r	-	0	0	0	0	++
4865	<i>Urtica dioica</i>	Harford Co., Md.		8/54	1, s, fl	-	0	0	0	0	++
4814	<i>Urtica gracilis</i>	Yates Co., N. Y.		8/54	1, s, r	-	0	0	0	0	++
4068	<i>Callicarpa Americana</i>	McIntosh Co., Ga.	VERBENACEAE	4/54	1	-	0	0	0	0	++
4470	<i>Lantana camara</i>	Brunswick Co., N. C.		7/54	1, s, fr	-	0	0	0	0	++
4058	<i>Lobelia inflata</i>	McIntosh Co., Ga.		4/54	1	-	0	0	0	0	++
4455	<i>Verbena bonariensis</i>	Brunswick Co., N. C.		7/54	1, s, fl	-	0	0	0	0	++

### CORRECTIONS ON ACCESSIONS

4085	<i>Verbena rigida</i>	Clarke Co., Ga.	4/54	1, s	
4619	<i>Verbena simplex</i>	Pulaski Co., Ky.	7/54	1, s, fl	
4248	<i>Verbena urticifolia</i>	Wake Co., N. C.	6/54	1, s	
4045	<i>Viola papilionacea</i>	Wake Co., N. C.	VIOLACEAE	4/54	1, s
4135	<i>Viola pedata</i>	Washington Co., Md.		5/54	1, s, fl, r
4143	<i>Viola striata</i>	Monongalia Co., W. Va.		5/54	1, s, r
4269	<i>Ampelopsis arborea</i>	Brunswick Co., N. C.	VITACEAE	6/54	1, s
4022	<i>Cissus sp.</i>	Tingo Maria, Peru		4/54	1, s
4208	<i>Parthenocissus quinquefolia</i>	Wake Co., N. C.		6/54	1, s, r
4442	<i>Vitis rotundifolia</i>	Brunswick Co., N. C.		7/54	1, s, fr
4206	<i>Vitis vulpina</i>	Wake Co., N. C.		6/54	1, s
4573	<i>Xyris difformis</i>	Brunswick Co., N. C.	XYRIDACEAE	7/54	1, s, fl, r
4711	<i>Phaeomeria speciosa</i>	C. G. F.	ZINGIBERACEAE	7/54	1, s, r
4742	<i>Tribulus terrestris</i>	New Haven Co., N. C.	ZYGOPHYLLACEAE	7/54	1, s, fl

<sup>a</sup> No steroid sapogenins found. <sup>b</sup> See text for steroid sapogenins found.

### CORRECTIONS ON SECOND 1,000 ACCESSIONS (4)

Page	No.	Should Read
14	1997	<i>Dioscorea spiculiflora</i>
14	1999	<i>Dioscorea floribunda</i>
27	1709	<i>Cercocarpus</i>

### CORRECTIONS ON THIRD 1,000 ACCESSIONS (6)

Page	No.	Should Read
4	2328	<i>Agave lecheguilla</i> , var. <i>Dioscorea</i>
13	2249	<i>Mexicana</i>

### CORRECTIONS ON FOURTH 1 000 ACCESSIONS (7)

Page	No.	Should Read
655	3341	<i>Agave deserti</i>
656	3104	<i>Agave roezliana</i>
665	3112	<i>Dioscorea floribunda</i>
665	3115	<i>Dioscorea floribunda</i>
665	3129	<i>Dioscorea plumifera</i>
665	3168	<i>Dioscorea floribunda</i>
665	3174	<i>Dioscorea cf. floribunda</i>
666	3358	<i>Dioscorea bulbifera</i>
666	3359	<i>Dioscorea bulbifera</i>
666	3360	<i>Dioscorea bulbifera</i>
666	3369	<i>Dioscorea Mexicana</i>
668	3547	<i>Dioscorea floribunda</i>
668	3551	<i>Dioscorea floribunda</i>
669	3736	<i>Dioscorea convolvulacea</i>
669	3737	<i>Dioscorea convolvulacea</i>
669	3738	<i>Dioscorea convolvulacea</i>
669	3739	<i>Dioscorea densiflora</i>
669	3742	<i>Dioscorea n. sp.</i>
669	3745	<i>Dioscorea convolvulacea</i>
669	3746	<i>Dioscorea convolvulacea</i>
669	3748	<i>Dioscorea Mexicana</i>
669	3749	<i>Dioscorea convolvulacea</i>
669	3751	<i>Dioscorea galeottiana</i>
669	3755	<i>Dioscorea lobata</i> var. <i>morelosana</i>
670	3758	<i>Dioscorea convolvulacea</i>
670	3849	<i>Acalypha sp.</i>
670	3950	<i>Acalypha sp.</i>
670	3057	<i>Alchornea</i>
673	3586A	<i>Yucca filamentosa</i>
678	3276	<i>In Phytolaccaceae</i>
678	3681	<i>Polystichum acrostichoides</i>
679	3118	<i>Poterium sanguisorba</i>

Flavonoids were found in 96 species, of which at least half seem to be new to the record.

Alkaloids were found in 86 species, an incidence of about 9% of the total. This is higher than noted in previous series, due largely to the change in technique mentioned above. Most of the species were wild plants growing in the eastern United States. Some 45 species are new to the record.

Tannins were again conspicuously absent from 150 species of Compositae. There were no noteworthy occurrences of tannin except in *Rhus*, and here it is expected.

Unsaturated sterols have proved to be so ubiquitous that the test for them was made on only a portion of the accessions.

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